

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Bessemer Plywood Corp

Michigan Manufacturing Technology Center

Bessemer Plywood: out of the Dryer and into Lean Improvements

Client Profile:

Bessemer Plywood Company was purchased at auction in 1986. The company produces custom-make varieties of plywood including A, B, and C surface grade. Bessemer is located in Bessemer, Michigan, and employs 140 people.

Situation:

Bessemer faced two problems, rising energy costs and a lack of involvement in improvement efforts by the people in the mill. Management felt that people in the mill didn't give input in the process and hoped that an 8-week Kaizen (continuous improvement) session could help solve a particular operational problem in the plant and get mill people involved and feeling more responsible for the success of the plant. Having heard positive things about Northern Initiatives (NI), Michigan Manufacturing Technology Center's (MMTC) Upper Peninsula regional office, a NIST MEP network affiliate, Bessemer management contacted Joe Boyle, NI's Professional Business Advisor and Lean Manufacturing practitioner.

Solution:

Northern Initiative's Joe Boyle met with Bessemer management and together they chose to have the Kaizen focus on the dryer. Management estimated that the dryer area could be improved in eight weeks. MMTC noted the importance of allotting the right amount of time, people, and other resources. The dryer affects everyone in the plant. Wood starts off in a section named the green end. Once there, it is peeled, debarked, and cut into sections. The wood is then dried in the dryer. The dryer itself is a 20-section heated kiln with two cooling sections. This part of the plant is important for two reasons: all the wood has to pass through it before it becomes plywood, and it's the biggest energy user in the mill. Often wood gets jammed up in the dryer, halting production. It is a major bottleneck in the overall operation, and Bessemer could save a lot of energy if the bottleneck could be relieved.

The group created a team charter; it covered the rules for the team, as well as the guidelines, timeframe, and roles of people in the group. They conducted a lean office simulation and other tasks that helped the team begin to understand the lean tools and techniques. The team set up a chart to record when and why the drier went down. They also recorded how much wood moved in a shift. (The company had used charts before and they didn't work, because each shift recorded the data in a slightly different way. The secretaries that transcribed the data into an electronic spreadsheet often couldn't read what the shift had written, and none of the shifts received feedback on how much wood they had moved.) In this project, however, entry of chart data became standardized. Secretaries could now understand them; they posted results in the lunchroom. This created a healthy competition between shifts. One shift even moved more wood than the chart could display. The teams also worked on standardizing the cleanout process for when the drier jammed. (Every shift cleaned out the dryer differently, and jams could last more than an hour.) Now, the shift teams agreed that reducing the

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number of jams would also reduce downtime. The shifts pooled their knowledge to find out the best way to minimize the types of jams that occurred most frequently. Together, they came up with a standard procedure to free up a jam. More hooks and twisters (long devices used to free up wood in a jam) were added along the 20 sections of the drier, and each was given a standard place for storage.

Results:

- * Developed standardized procedures for freeing a jam.
- * Added devices to free up wood in a jam.
- * Increased productivity by 15 percent.
- * Developed a better rapport between work shifts.
- * Achieved a more competitive and profitable position.

Testimonial:

"We solved a lot of small problems, but they added up to something big. I don't think we would still be in business without the improvements and money we saved on this project."

Bernie Smith, Safety Manager